

IN THE CLAIMS:

The following is a complete listing of claims in this application.

1. (currently amended) A ~~surface treating~~ method for improving fatigue strength of a titanium part, comprising the steps of:

~~determining an effective thickness correlating hardness~~ of a hard oxide film to be formed on a surface of the titanium part against thickness of the film to determine an effective thickness corresponding to a predetermined desired film hardness;

~~determining an effective correlating the hardness against surface roughness of the hard oxide film to determine an effective surface roughness corresponding to the desired film hardness; and~~

~~oxidation treating the surface of the titanium part under a desired treating temperature and a desired treating time conditions of temperature and time~~ such that both of the determined effective thickness and effective surface roughness are satisfied corresponding to the desired film hardness are obtained,

wherein the effective thickness is 14 micrometers or less, and the effective surface roughness Rz is 3.0 micrometers or less;

~~wherein the effective thickness of the film corresponds to a required hardness and is determined from a correlation of the hardness against the film thickness of the hard oxide film.~~

Claims 2-4 (canceled).

5. (original) A method as defined in claim 1, wherein the desired treating temperature is 730 degrees C or less.

6. (previously presented) A method as defined in claim 1

further comprising the step of treating the surface of the titanium part after the oxidation treating step.

Claims 7-9 (canceled).

10. (new) A method as defined in claim 1, wherein reduction rate of the fatigue strength is less than 20%.

LAW OFFICES
DENNISON, SCHULTZ & MACDONALD
SUITE 105
1727 KING STREET
ALEXANDRIA, VIRGINIA 22314-2700
703 837-9600